

CLAIMS

What is claimed is:

1. An internal combustion engine comprising;
a cylinder head having a bore extending to a radially extending shoulder surrounding an opening,
a fuel injector disposed in said bore in engagement with said shoulder and having a tip extending through said opening,
a gasket disposed between said fuel injector and said seating surface,
said gasket including at least one incompressible and flat layer sandwiched between two compressible polymer layers with said polymer layers extending radially completely over said incompressible layer.
2. An assembly as set forth in claim 1 wherein said incompressible layer consists of metal and is non-bendable.
3. An assembly as set forth in claim 1 wherein said incompressible layer defines a washer-like shape with a central hole, and including a polymer body disposed in said hole radially inwardly of said incompressible layer.
4. An assembly as set forth in claim 3 wherein said polymer layers and said polymer body are integral and of the same polymer.
5. An assembly as set forth in claim 3 wherein said body includes a bead portion thicker than the total thickness of said incompressible and polymer layers.

6. An assembly as set forth in claim 5 wherein said body includes a recess portion having a thickness less than said total thickness to define a recess adjacent said bead portion.

7. An assembly as set forth in claim 6 wherein said bead portion is disposed radially between said recess portion and said incompressible layer.

8. An assembly as set forth in claim 7 including a plurality of said incompressible layers with a sandwiched layer of polymer disposed between adjacent incompressible layers.

9. An assembly as set forth in claim 1 including a plurality of said incompressible layers with a sandwiched layer of polymer disposed between adjacent incompressible layers.

10. An assembly as set forth in claim 1 wherein said cylinder head includes a sleeve disposed in said bore and surrounding said injector and including a radially inwardly extending lip disposed between said gasket and said shoulder.

11. An assembly as set forth in claim 1 wherein said polymer layers have a thickness of at least 0.005 inches and no greater than 0.025 inches.

12. A gasket comprising at least two compressible polymer layers and at least one incompressible and flat layer sandwiched between said polymer layers.

13. An assembly as set forth in claim 12 wherein said incompressible layer consists of metal and is non-bendable.

14. An assembly as set forth in claim 12 wherein said incompressible layer defines a washer-like shape with a central hole, and including a polymer body disposed in said hole radially inwardly of said incompressible layer.

15. An assembly as set forth in claim 12 wherein said polymer layers and said polymer body are integral and of the same polymer.

16. An assembly as set forth in claim 12 wherein said body includes a bead portion thicker than the total thickness of said incompressible and polymer layers.

17. An assembly as set forth in claim 16 wherein said body includes a recess portion having a thickness less than said total thickness to define a recess adjacent said bead portion.

18. An assembly as set forth in claim 17 wherein said bead portion is disposed radially between said recess portion and said incompressible layer.

19. An assembly as set forth in claim 18 including a plurality of said incompressible layers with a sandwiched layer of polymer disposed between adjacent incompressible layers.

20. An assembly as set forth in claim 12 including a plurality of said incompressible layers with a sandwiched layer of polymer disposed between adjacent incompressible layers.

21. An assembly as set forth in claim 12 wherein said polymer layers each have a thickness of at least 0.005 inches and no greater than 0.025 inches.